

various large insects. It may often be seen perched on trees or buildings in the centre of the towns.

774. *FALCO CENCHRIS* Naum.

*Tinnunculus cenchris*, B. O. U. List, p. 104.

The Lesser Kestrel is a very common summer visitor, but though Lord Lilford regarded it as more abundant than the preceding species, such is not our experience, as the large majority of the many Kestrels that we shot and of the nests we took belonged to *F. tinnunclus*. As Guillemard met with it in February it is possible that some individuals remain throughout the winter, but my own notes, at present, cover it over no further a period than March to September. Guillemard seems to have thought that it was nesting in March, but in our experience it does not commence to deposit its eggs till about mid-April, and we found full fresh clutches on the 5th of May. It breeds in Cyprus in the same localities as the preceding species, the eggs, when laid in a crevice of the rocks, lying practically bare in a slight hollow on a little loose soil. We found nothing but lizards, beetles, and locusts and other insects in their crops.

[To be continued.]

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II.—*The Ornithological Collections of the University of Cambridge.* By H. GADOW, M.A., F.R.S., Strickland Curator.

THE Ornithological Collections belonging to the University of Cambridge are kept in the Museum of Zoology, in charge of the Strickland Curator.

The nucleus of the Museum's Natural History Collections was formed by the Cambridge Philosophical Society, which transferred its specimens to the University.

The Ornithological Department may be said to have come into existence with the bequest of the collection of birds formed by Strickland and the endowment of a Strickland Curatorship, the chief duty of the holder of this post being the custody and arrangement of the "Strickland Collection"

and other ornithological collections belonging to the University, or such as the University may still acquire.

The Strickland Collection, consisting of skins and a library, is to be kept separate. The remainder, which we may call the General Collection, comprises skins, stuffed specimens, skeletons and other anatomical preparations, eggs, and a library.

For forty-one years, until a few days before his death, Alfred Newton, Professor of Zoology and Comparative Anatomy, was the life and soul of this department, not only on account of his unrivalled knowledge of things ornithological, but through his never-failing help by world-wide correspondence, his advice and—his criticisms. On his death he left all his Collections and his Library to the University\*.

It is known to but a few people how he was always ready with his purse to secure more specimens or even whole collections which the Museum's scanty funds would have

\* The 'Cambridge University Reporter' of June 15, 1907, contains the following extract from the will of the late Professor Newton:—

"I give and bequeath to the Chancellor Masters and Scholars of the University of Cambridge my Natural History Collections and Library together with the Cabinets Cases and Apparatus thereto belonging including all my Copyrights Books Pictures Prints Drawings Letters and Papers relating to Natural History . . . to be kept for the purposes of the said University and not for the purpose of sale, and to be attached, so far as is convenient, to the Department of Zoology. . . .

"I also give and bequeath to the University the sum of One Thousand Pounds upon trust to invest the same and to apply the annual income thereof to the keeping up and adding to the said Library . . . .

"In a 'Memorandum to my Executors' concerning the bequest [which has been accepted as it stands, by Grace of the Senate, June 18th, 1907] occurs the following passage: 'For my own convenience it has been my practice to make marginal notes and cross references in my own books, and I believe that some of these may prove to be of considerable assistance to anyone who after me may use these copies.'"

The principal objects received by the University under this bequest were the Wolley Collection of Bird's-eggs as augmented by Newton, and the Newton Library including all his papers and MSS., both of which are described below.

put beyond its reach. Many Cambridge men, and others too, have presented their spoils to the Museum, with the result that there is now a fairly good ornithological collection. Of course, it does not rank with any of the large collections of the world, but it makes up for small numbers by the fact that it has been formed with a purpose, for the general, not only for the systematic study of Ornithology.

The following is a short statement of its contents :—

**A.**—SKINS, including about 1200 stuffed specimens, nearly 1000 of which are British-killed specimens.

1. The Strickland Collection, originally 6006 specimens, of 3125 species, now with additions from the Jardine Collection.
2. The General Collection, about 16,700 specimens.

This makes a grand total of about 23,000 specimens, representing some 5700 species, assuming the number of recent species known to be somewhere near 12,000.

The skins are arranged and catalogued according to Gray's Hand-list, chiefly on account of the convenience of the specific numbers in that work.

The following details shew how the General Collection has gradually grown. This is, however, not the place to give a list of all the kind donors, nor to mention any lots which were purchased. The various collections enumerated below have been incorporated in the General Collection, with some notable exceptions.

- (1) *The Hepburn Collection*, mostly Californian.
- (2) *The Selby Collection*.
- (3) *The Swainson Collection*. This was purchased from Dr. Swainson, mainly on account of his many reputed type-specimens; but unfortunately a mystery is attached to them, since the number of specimens actually to hand falls far short of the official list.
- (4) *The Madagascar Collection*, with 826 specimens of 238 species, made by the late Sir Edward Newton.
- (5) *The Jamaica Collection*, with 563 specimens of 101 species, made by the late Sir E. Newton. These two collections are kept as separate units.
- (6) *The Jardine Collection*, with 2063 specimens of 900 species, bought at the Jardine sale in 1886 by Mrs. Strickland and Professor Newton.
- (7) *The Farr Collection*, originally of about 1300 skins, collected by the late W. B. Farr in India and presented by his widow.

- (8) *The Buckley Collection*, with 382 specimens of Palearctic birds, collected by the late T. E. Buckley. To be kept separate.

*Other collections, made mostly by the Donors.*

Col. H. W. Feilden, South Africa and Barbados.  
 J. H. Gurney, South Africa.  
 Dr. F. H. H. Guillemard, Celebes.  
 Prof. Hickson, Celebes.  
 Dr. Francis Day, India.  
 Baron A. v. Huegel, Fiji.  
 C. E. Lister, South America.  
 G. D. Haviland, Borneo and the Malay Peninsula.  
 Dr. C. Hose, Borneo.  
 J. S. Budgett, Gambia.  
 L. W. Wigglesworth, Fiji.  
 J. L. Bonhote, Bahamas.  
 Major Wm. Cooke Daniels, British Guiana.  
 Chas. B. Storey, Angoni Land.  
 Miss A. I. M. Elliot, North Celebes.

Professor Newton paid much attention to the Avifauna of certain islands, with the result that some of them are very well represented, notably Jamaica, Madagascar, New Zealand, the Sandwich Islands, and the Galapagos: all these collections are kept separately.

There are not a few rare specimens, *e. g.* Great Auk, Labrador Duck, a 'Beagle' specimen of the Steamer Duck, *Nesonetta aucklandica*, the flightless Cormorant and the flightless Grebe, *Balæniceps rex*, *Æstrelata hæsitata* from Guadeloupe, *Rhodostethia rosea*, *Anarhynchus frontalis*, New Zealand Quail, *Nestor productus*, male and female of *Palæornis exsul* from Rodriguez, *Platycercus unicolor*, *Sceloglaux albifacies*, Rudolph's and Albert's Birds-of-Paradise, *Chatoptila angustipluma*, *Acrulocercus nobilis* and the Drepanids of the Sandwich Islands, and 'Beagle' specimens of the Galapagos Finches, &c.

**B.—OSTEOLOGICAL SPECIMENS, SPIRIT-SPECIMENS, AND VARIOUS ANATOMICAL PREPARATIONS.**

The osteological collection contains some 1600 entries, inclusive of fossils, ranging from complete skeletons to single parts.

Special mention should be made of the Dinornithidæ, *Alca impennis*, *Pezophaps*, and *Didus*; *Gallinula nesiotis*, *Aphanapteryx*, *Erythromachus* and *Diaphorapteryx*, *Lophopsittacus* and other subfossils from Mauritius; *Funiguis*, *Glaucopis*, *Turnagra*, *Clitonyx*, and *Miro*; not to mention numerous preparations illustrative of special structures, development, degeneration, the inheritance of acquired characters, convergence, &c.

### C.—EGGS.

There are several collections of Eggs and a considerable number of Nests.

I. The '*Ootheca Wolleyana*' has 6076 paragraphs or entries of eggs, comprising from 1 to 36 (cf. § 4875, Guillemot) specimens each, mostly more than 2, so that the total number surpasses with certainty 12,000, and probably approaches 20,000 specimens. However, anyone who thinks the correct number important enough and worth his time, may count them himself in the well-printed Catalogue. In reality there are a good many more specimens in the Egg-cabinets than are mentioned in the '*Ootheca*'; perhaps these were intended for duplicates. Most of the eggs have been written upon, and every one contains at least a "v. p." and a number. The number refers to a page in the twelve MS. volumes, which are nothing less than Newton's Egg-Diary, begun in the year 1843 and ending, with consecutive pagination, in February 1907, a few months before his death. Comparatively few of this vast number of eggs have yet been properly arranged. Newton, knowing them almost individually, alone knew where to find them in the cabinets, and they were, until recently, his private property.

II. Besides the eggs catalogued in the '*Ootheca Wolleyana*,' Newton made a collection of those of birds outside the Palæarctic region. He, however, did not pay much attention to it. The eggs, many of them decidedly rare, were accepted as they happened to come in, were registered in the Egg-diary and then put away. Altogether there may be about 2500 specimens in this "General Collection."

To tell the truth, Newton never cared much about eggs from a scientific point of view, and he told me more than once that he did not think that much could be got out of their study; in short, that it was not a "logy," as it did not lend itself to deductive conclusions, and that the systematic value of eggs was very limited. "You cannot state upon oath what kind a given egg is, unless you have seen the mother bird fly off, and that is but circumstantial evidence." The interesting correlations between eggs, nests, and environment did not appeal to him, because of

the apparent exceptions which seem to prevent safe generalizations. Some of the reasons why, in his later years, he devoted so much painstaking labour to the '*Ootheca*' were rather sentimental: the memory of his friend Wolley, and the delight it gave him to go through his notes, taken when travelling in Lapland, Iceland, and Spitsbergen, more especially Lapland, and thus to live again through old times when he studied Nature in the field, because Newton was essentially, at heart, a Field Naturalist, and a very good one indeed.

- III. *The Wilmot-Russell Collection*, made by J. P. Wilmot, left to and augmented by his friend Sir S. L. Russell, whose widow left it to the University. It is properly arranged and catalogued, and contains about 2005 eggs of 325 European species.
- IV. *The T. E. Buckley Collection*; containing about 1780 eggs of European species, properly arranged and catalogued.

#### **D.**—THE NEWTON LIBRARY.

There are some 57 Journals and Periodicals, recent and ancient, in the Newton Library, comprising just 1001 volumes.

Through the generosity of their owner a sum of money was left to keep up at least the more important Journals (besides such as are taken in by the Department of Zoology) and to purchase special ornithological works which may appear.

Besides these Periodicals there are

195 folio volumes,

897 quarto.

3133 octavo.

169 of small size.

These 4400 volumes may be sorted roughly into

1800 strictly ornithological.

462 volumes of voyages and travels.

226 dealing with North America.

129 „ „ Central and South America.

167 „ „ Arctic countries.

184 „ „ Asia.

189 „ „ Australasia.

141 „ „ Africa.

The rest, about 1100 in number, relate to Europe, or are miscellaneous—*e. g.* Text-books, General Philosophical works, Biographies, Dictionaries, &c., &c.

Further, there are more than 8000 "pamphlets," mostly ornithological, now in process of being sorted, or being bound up.

Lastly, several dozen volumes of bound-up letters, received during a lifelong correspondence on every imaginable subject, from the reputed laying of some egg to the founding of the B. O. U.

Besides copies of all the sumptuously-illustrated monographs, the Library is especially rich in "Old Authors"—rather a hobby of Newton's,—many of them reputed to be of great value. He was well known as a bibliophile, but whether a book or pamphlet was old or new, he never hesitated to write freely in it critical notes, cross-references which he alone knew of, corrected dates, &c., and thus he greatly enhanced the value of his books to anyone who may wish to consult them.

The Newton Library is not a public nor a lending library, but every facility for its study in a well-fitted room is, and will always be, gladly given.

Some impatience has been shown about the accessibility of these collections of books and eggs. Their sudden accession raised several difficult problems. Not only does it take time to sort and rearrange such an influx, but it requires space in an already more than crowded museum: and (given time and space) also binding, cabinets, show-cases, catalogues, all costing money, which is well known to be scarce in the case of our *Alma Mater*.

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III.—*On the Birds of Paraguay.* By CHARLES CHUBB,  
Zoological Department, British Museum\*.

(Text-figure 1.)

THE collection on which this paper is based was made by Mr. W. Foster in the neighbourhood of Sapucay in 1902, 1903, and 1904. I was in hopes that Mr. Foster would have been able to send me some account of the locality and the circumstances under which the collection was made, but I have not yet heard from him on the subject.

Sapucay, as will be seen by the map (text-fig. 1, p. 54), is situated in about 57° W. Long. and 27° S. Lat. It is on the railway between Asuncion and Ybytimi.

Since the time of Azara, several isolated papers have appeared dealing with the birds of Paraguay, but I do not believe that any collection of such magnitude as that

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